I. AMENDMENTS

Please amend the claims as indicated below. The present claim set replaces all prior listings of claims.

1. (Currently amended) A method for accelerating the rate of mucociliary clearance in subject with mucociliary dysfunction comprising administering to the subject an effective mucociliary clearance stimulatory amount of a composition comprising a substantially purified human serine protease inhibitor protein containing at least one Kunitz-like domain, ~~Kunitz-type serine protease inhibitor~~ and a physiologically acceptable carrier.

2. (Original) The method according to claim 1, wherein said composition is administered to the lung airways.

3. (Original) The method according to claim 1, wherein said composition is administered directly by aerosolization.

4. (Original) The method according to claim 1, wherein said composition is administered directly as an aerosol suspension into the mammal's respiratory tract.

5. (Original) The method according to claim 4, wherein said aerosol suspension includes respirable particles ranging in size from about 1 to about 10 microns.

6. (Original) The method according to claim 4, wherein said aerosol suspension includes respirable particles ranging in size from 1 to about 5 microns.

7. (Original) The method according to claim 4, wherein said aerosol suspension is delivered to said subject by a pressure driven nebulizer.

8. (Original) The method according to claim 4, wherein said aerosol suspension is delivered to said subject by an ultrasonic nebulizer.

9. (Original) The method according to claim 4, wherein said aerosol suspension is delivered to said subject by a non-toxic propellant.

10. (Previously presented) The method according to claim 1, wherein said carrier is a member selected from the group consisting of a buffered solution, an isotonic saline, normal saline, and combinations thereof.

11. (Withdrawn) The method according to claim 1 wherein the Kunitz-type serine protease inhibitor is aprotinin.

12. (Withdrawn) The method according to claim 1, wherein the Kunitz-type serine protease inhibitor comprises the amino acid sequence: (SEQ ID NO.: 49).

13. (Withdrawn) The method according to claim 1, wherein the Kunitz-type serine protease inhibitor comprises the amino acid sequence: (SEQ ID NO.: 2), (SEQ ID NO.: 45), (SEQ ID NO.: 47), (SEQ ID NO.: 70), or (SEQ ID NO.: 71).

14. (Currently amended) The method according to claim 1, wherein the substantially purified human serine protease inhibitor protein containing at least one Kunitz-like domain,~~Kunitz-type serine protease inhibitor~~ comprises the amino acid sequence: (SEQ ID NO.: 4), (SEQ ID NO.: 5), (SEQ ID NO.: 6), (SEQ ID NO.: 7), (SEQ ID NO.: 3), (SEQ ID NO.: 50), (SEQ ID NO.: 1), OR (SEQ ID NO.: 52).

15. (Withdrawn) The method according to claim 1, wherein the Kunitz-type serine protease inhibitor comprises the amino acid sequence: (SEQ ID NO.: 8).

16. (Currently amended) The method according to claims 12, 13, 14 or 15, wherein the substantially purified human serine protease inhibitor protein containing at least one Kunitz-like domain ~~Kunitz-type serine protease inhibitor~~ is glycosylated.

17. (Currently amended) The method according to claims 12, 13, 14 or 15, wherein the substantially purified human serine protease inhibitor protein containing at least one Kunitz-like domain ~~Kunitz-type serine protease inhibitor~~ contains at least one intra-chain cysteine-cysteine disulfide bond.

18. (Currently amended) The method according to claims 12, 13, 14 or 15, wherein the substantially purified human serine protease inhibitor protein containing at least one Kunitz-like domain ~~Kunitz-type serine protease inhibitor~~ contains at least one intra-chain cysteine-cysteine disulfide bond selected from the cysteine-cysteine paired groups consisting of CYS11-CYS61,

CYS20-CYS44, CYS36-CYS57, CYS106-CYS156, CYS115-CYS139, and CYS131-CYS152, wherein the cysteine residues are numbered according to the amino acid sequences of SEQ ID NO.: 52.

19. (Currently amended) The method for accelerating the rate of mucociliary clearance in a subject in need of such treatment comprising administering to the subject an effective mucociliary clearance stimulatory amount of a composition comprising a substantially purified human serine protease inhibitor protein containing at least one Kunitz-like domain ~~Kuntiz-type serine protease inhibitor~~ and a physiologically acceptable carrier, wherein the ~~Kunitz-type serine protease~~ inhibitor is selected from a group consisting of: SEQ ID NO.: 49; SEQ ID NO.: 2; SEQ ID NO.: 45; SEQ ID NO.: 47; SEQ ID NO.: 71; SEQ ID NO.: 70; SEQ ID NO.: 4; SEQ ID NO.: 5; SEQ ID NO.: 6; SEQ ID NO.:7; SEQ ID NO.: 3; SEQ ID NO.: 50; SEQ ID NO.: 1; SEQ ID NO.: 52; and SEQ ID NO.: 8.

20. (Previously presented) The method according to claim 19, wherein the composition is administered to the lung airways.

21. (Previously presented) The method according to claim 19, wherein the composition is administered directly by aerosolization.

22. (Previously presented) The method according to claim 19, wherein the composition is administered directly as an aerosol suspension into the mammal's respiratory tract.

23. (Previously presented) The method according to claim 22, wherein the said aerosol suspension includes respirable particles ranging in size from about 1 to about 11 microns.

24. (Previously presented) The method according to claim 22, wherein the said aerosol suspension includes respirable particles ranging in size from about 1 to about 5 microns.

25. (Previously presented) The method according to claim 22, wherein the said aerosol suspension is delivered to said subject by a pressure driven nebulizer.

26. (Previously presented) The method according to claim 22, wherein the said aerosol suspension is delivered to said subject by an ultrasonic nebulizer.

27. (Previously presented) The method according to claim 22, wherein the said aerosol suspension is delivered to said subject by a non-toxic propellant.

28. (Previously presented) The method according to claim 19, wherein said carrier is a member of selected from the group consisting of a physiologically buffered solution, an isotonic saline, normal saline, and combination thereof.

29. (Currently amended) The method according to claim 19, wherein the substantially purified human serine protease inhibitor protein containing at least one Kunitz-like domain ~~Kunitz type serine protease inhibitor~~ is glycosylated.